

SWITCH-REFERENCE AND DISCOURSE REPRESENTATION

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1 *Switch-reference phenomena*

1.0 Introduction

Switch-reference and logophoricity are both types of anaphoric linkage across clause boundaries which cannot be adequately accounted for by the Binding Theory (of Chomsky 1981 and later work). In central cases of switch-reference, a marker on the verb of one clause is used to indicate whether its subject has the same or different reference from the subject of an adjacent, syntactically related clause. In central cases of logophoricity, a special pronoun form is used within a reported speech context, to indicate coreference with the source of the reported speech. This book gives a detailed examination of the two phenomena and proposes an account for them which is formalised in Discourse Representation Theory.

The major concern of the book is the functional complexity of switch-reference systems. Switch-reference markers have a much richer range of functions than just indicating obligatory co/disjoint reference. I will show that switch-reference systems are inextricably linked with the marking of temporal meaning as well as nominal meaning. I will then consider a range of apparently aberrant uses of switch-reference markers which have been reported for many languages. I will argue that unexpected uses of 'same subject' marking can be explained if we revise our definition of the switch-reference pivot and the switch-reference relation, in particular to take account of agentivity. The unexpected uses of 'different subject' marking which occur in fact represent common and systematic functional extensions of switch-reference systems which should be accounted for by any comprehensive theory. My proposal is that the functional complexity of switch-reference systems can be accounted for if one regards switch-reference as having the clause rather than the NP as its semantic domain and as indicating agreement or disagreement between parameters of the 'eventualities'

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(in the sense of Bach 1981) described by the clauses it relates. I will show how this idea can be captured formally within the framework of Discourse Representation Theory, as embedded within the grammar formalism, Unification Categorical Grammar. A detailed illustration of the claims about switch-reference and of the proposed account will be given by providing the beginnings of a formal account for the switch-reference system of the Papuan language Amele.

A number of subsidiary concerns are also addressed. The most important of these is the relationship between switch-reference and logophoricity. In chapter 1 I argue that although switch-reference and logophoricity are functionally similar, may be regarded as ends of a continuum, and may be related historically, there is nothing to be gained by attempting to subsume them one under the other. Having presented the account for switch-reference, I then return to the consideration of logophoricity in chapter 6, and propose a formal account for it within the same theoretical framework. I argue that the mechanisms used to account for switch-reference and those used to account for logophoricity are of the same kind.

The book falls into two main parts, with the first three chapters concerned with detailed but informal presentation of the argument and the final three chapters concerned with the presentation of the formal accounts of switch-reference and logophoricity.

In this chapter I give a typological survey of switch-reference phenomena which shows that the 'canonical' conception of switch-reference, upon which previous theoretical work has been based, is unrepresentative of the data in various significant respects. I start to build up a comprehensive description of the range of switch-reference phenomena which occurs crosslinguistically, and the criteria of adequacy to be satisfied by any comprehensive theory of switch-reference. This leads to a reconsideration of prevalent ideas in the literature about the kind of thing switch-reference is and how it should be handled formally. This description is further developed in chapter 2, where the range of aberrant uses of switch-reference markers is considered, with detailed description of data from Imbabura Quechua, Eastern Pomo, Lenakel and Amele. Then in chapter 3 an informal theoretical conception of switch-reference is argued for which attempts to satisfy these criteria.

General theoretical accounts of switch-reference, as opposed to descriptions of it in individual languages, or crosslinguistic descriptive typologies, are relatively rare. Givón (1983), Haiman (1983) and Ariel (1990) consider some theoretical issues in switch-reference from an

informal point of view, and these will be reviewed in chapter 3. Some work has been done on switch-reference and related phenomena within the framework of Lexical Functional Grammar, as part of a general theory of anaphoric binding and control (see for example Simpson & Bresnan 1983). However the only comprehensive formal accounts which have been proposed have been *Finer (1985a,b)* and *Tsujimura (1987)*. *Finer's* account is formulated within the framework of Government and Binding Theory, and it will be briefly described and evaluated in this chapter. *Tsujimura* proposes a theory for switch-reference within the framework of Categorical Grammar. Her account will not be discussed further in this book.

1.1 The canonical conception of switch-reference

The sentence pairs in (1) and (2), from the North American language Mojave and the Papuan language Usan, are examples of switch-reference.

- (1) a. *nya-isvar-k* *iima-k*
when-sing-SS dance-Tns
'When he_i sang, he_i danced.'
- b. *nya-isvar-m* *iima-k*
when-sing-DS dance-Tns
'When he_i sang, he_j danced.' (Mojave; Munro 1980c: 145,(4))
- (2) a. *ye nam su-ab* *isomei*
I tree cut-SS I_went_down
'I cut the tree and went down.'
- b. *ye nam su-ine* *isorei*
I tree cut-DS it_went_down
'I cut the tree down.' (Usan; Haiman & Munro 1983b: xi,(3,4))

In (1a) the subject of the first, subordinate clause has the same referent as that of the second, matrix clause, and to indicate this, the 'same subject' marker *-k* (homophonous with one of the tense markers) is used in place of tense on the verb in the first clause. In (1b) the 'different subject' marker *-m* is used to show that the subjects have disjoint reference. Note the absence of independent subject NPs.

The clauses in (1) are intransitive; (2) gives similar examples with transitive clauses. In (2a) the same subject marker *-ab* is attached to the

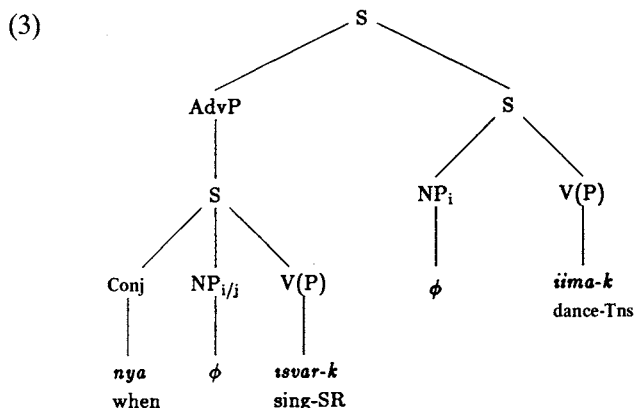
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verb of the first clause, to show that the subject is coreferential with that of the second clause. In (2b) the different subject marker *-ine* is used to indicate that there is disjoint reference: in fact here, the subject of the second clause is coreferential with the direct object of the first clause.

Henceforth, the abbreviations 'SS' and 'DS' will be used for same and different subject markers, and 'SR' will be used for 'switch-reference marker', subsuming SS and DS. The clause marked for switch-reference, which is usually a subordinate or dependent clause (in a technical sense of 'dependent' which will be explained below), will be referred to as the 'marked' clause, and the other clause in the relation, which is usually an independent clause that can stand alone and carries tense and other inflectional categories, will be referred to as the 'controlling' clause.¹

Notice that while switch-reference marking is necessary to disambiguate the subject reference in example (1), where both subjects are third person and there are no lexical NPs, it is not necessary for disambiguation in (2). It is this characteristic of switch-reference marking which has led it to be seen as a syntactic phenomenon rather than a discourse or pragmatic phenomenon: it is pervasive and regular and continues to operate even when non-third-person NPs or fully specified lexical NPs mean that it is not necessary for reference resolution. See Finer (1985b: 38f.), Munro (1980b: 2f.), Haiman & Munro (1983b: xi) among others for support of this argument.

The tree diagram in (3) gives a surface syntactic analysis of (1). The question of whether the language should be taken to have VPs or a flat structure is ignored here.



Switch-reference was first defined by Jacobsen (1967), although certain of the phenomena of interest had been identified in American Indian languages earlier than this. See Kroeber (1911) on Yuki, Hoijer (1949) on Tonkawa, and Oswalt (1961) on Kashaya. Subsequently, switch-reference systems have been identified and studied in a range of American Indian, non-Austronesian and Australian languages and in a small number of African languages. Haiman & Munro (1983a) is a collection of papers representing a general typological survey; Jacobsen (1983) is an updated survey of switch-reference in the languages of North America; Austin (1980, 1981) gives a typological survey of switch-reference in Australia and Austin (1988) is a collection of papers, a number of which describe Australian systems; Longacre (1972) canvasses switch-reference in the languages of Papua New Guinea. Information on switch-reference in African languages can be found in Wieseemann (1982), Comrie (1983) and Sim (1989).

I shall not be directly concerned with the origins of switch-reference systems in this book, although some discussion will be given of general theories of their origins in chapter 3. Their apparent diversity is reflected in the homophony exhibited in a significant number of switch-reference systems between switch-reference morphemes and aspectual markers, tense morphemes, case inflections, subordinating clitics and conjunctions. See Jacobsen (1983), Givón (1983) and Haiman (1983). For most Australian languages and some North American languages switch-reference morphemes are related to nominal case inflections. In Australia SS marking appears to be associated with Ergative case suffixes (homophonous with Locative case marking in the languages in question) and DS marking with Locative or Allative case (see Austin 1981, Dench 1988, Dench & Evans 1988, Wilkins 1988). Work on the Yuman languages of North America (for example see Langdon 1970, Winter 1976, Langdon & Munro 1979 and Langdon MS) has suggested that in these languages both markers may derive from directional cases, apart from in one branch of the family where more recent changes have given rise to a new SS marker derived from the Subject case inflection.

There is some evidence for an element of areal diffusion in the development of switch-reference systems. The geographical distribution of switch-reference in North America exhibits clustering around the Southwest and Great Basin culture areas, and in coastal Northern California; the larger Northern and Eastern areas lack it. Languages

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central to these clusters also have a greater 'commitment' to switch-reference than more peripheral languages, for example in the number of pairs of switch-reference morphemes they have and the range of syntactic environments these may be used in. See Jacobsen (1983: 172f.). Similarly, Austin (1980, 1981) has described the areal diffusion of switch-reference across diverse languages in Australia. Outside the four geographical areas mentioned above, only isolated and qualified reports of switch-reference systems have been made. For example, Nichols (1983: esp. 245) describes switch-reference-like systems in some language families of the Northeast Caucasus.²

From the extensive literature on switch-reference one can distil an idea of the canonical switch-reference system, as one which meets the following formal and functional conditions.

- (1) The Locality Condition
The switch-reference relation holds between just two clauses. The relation between the marked and the controlling clause is a local one, i.e. the clauses are linearly adjacent.
- (2) The Dependency Condition
The marked clause is syntactically and semantically dependent on the controlling clause. Either the marked clause is subordinate to the controlling clause or marked and controlling clauses are in a clause-chaining construction. In a clause chaining construction a string of 'dependent' medial clauses is followed by a final 'independent' clause. The medial clauses are typically marked for switch-reference but lack some or all of the verbal inflection characteristic of independent clauses, such as tense, mood, agreement etc. The final clause is not marked for switch-reference but does have finite verb inflection, and this is assumed to apply to the entire clause chain.
- (3) The Realisation Condition
Switch-reference is marked by contrastive suffixation on the verb of the dependent clause. The order of the two clauses is marked followed by controlling.
- (4) The Subject Condition
Let us introduce the term **switch-reference pivot** for the two NPs which are related by switch-reference marking. The switch-reference pivots are the surface syntactic subjects of the marked

and controlling clauses. Even in languages with some degree of ergativity, the pivots seem to be Nominative–Accusative subjects (Austin 1980: 27, 36–7; T. Payne 1980: 67; Foley & Van Valin 1984: 118–19).

(5) The Functional Condition

Switch-reference functions to signal obligatory co/disjoint reference between the pivot NPs.

An abstraction with this profile, or one very similar, seems to have had considerable psychological reality for researchers working on switch-reference, whether they are engaged in describing a particular language, giving a typological survey of the phenomenon or attempting to develop a formal account for switch-reference. For example, Givón (1983) opens with the statement: ‘What I propose to do in this paper may displease some *aficionados* of the traditional view of switch-reference’ (p. 51), and concludes by saying: ‘the narrow “canonical” definition of switch-reference . . . has severe pitfalls attached to it’ (p. 79). Many other researchers make very clear statements about ‘canonical’, ‘classical’, ‘real’ or ‘true’ switch-reference; for example see Jacobsen (1983: 151), Haiman & Munro (1983b: ix), Nichols (1983: 259) and Munro (1980b: 2). They may also identify ‘non-canonical’ systems, and may note, like Heath (1983: 130) that ‘sporadic departures from this norm’ will be disregarded.³

It is obviously in the nature of an abstraction to have exceptions, and it is therefore unsurprising that the canonical definition presented above reveals just a fraction of the wealth of data and range of instances of which it is claimed to be representative. Some of the diversity in switch-reference systems is due to the interaction of an underlying functional phenomenon with language specific choices in areas such as constituent order, and this will be discussed in more detail in section 1.3. However, there are important ways in which the particular abstraction with which many researchers appear to be working fails to represent the data adequately, which we shall consider in sections 1.3 and 1.4. These have significant implications for any general theoretical account.

In illustration, Finer’s (1985a,b) ‘formal grammar of switch-reference’ is based on a very restrictive notion of switch-reference which is readily shown to be unrepresentative. Before proceeding I will briefly consider his account, which is formulated within Government and Binding Theory (Chomsky 1981), specifically that version of GB proposed by

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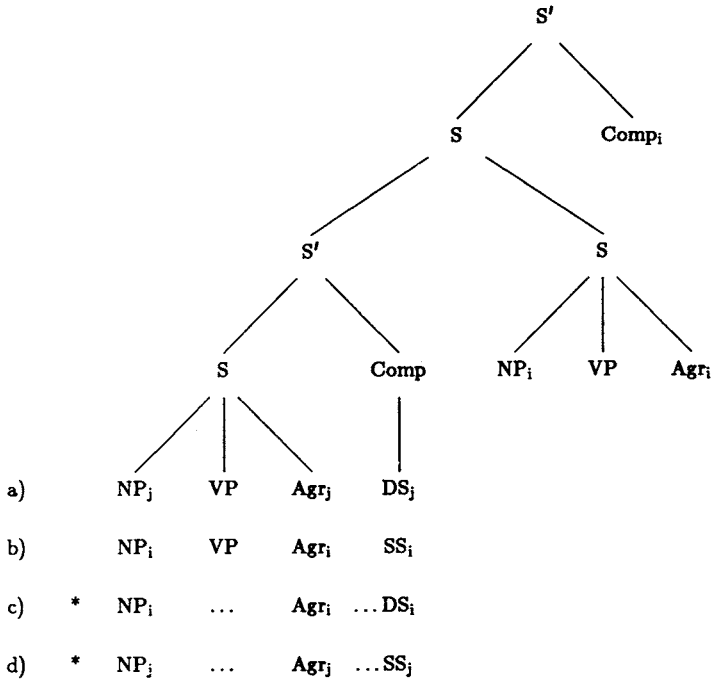
Aoun (1981, 1985, 1986), and called 'Generalised Binding'.⁴ Finer's account is open to a number of criticisms for the unjustified assumptions it makes about switch-reference languages. Some of these criticisms are general ones which stem from his acceptance of the canonical view of switch-reference, and these will be of most concern to us here; others are specific criticisms which may be subject to correction within the GB framework and which I shall have little to say about. For other critiques of the account see Tsujimura (1987) and Roberts (1988).

In brief, Finer assumes that switch-reference is a syntactic phenomenon, to be accounted for by the Binding Theory at the level of S-structure. He assumes a canonical notion of switch-reference identical to that defined above, except that he adopts an even more constrained version of the Dependency Condition, which I shall refer to as the **Hierarchical Adjunction Condition**: the syntactic relationship between the two clauses is restricted to hierarchical adjunction, i.e. it is a subordination relationship and complementation, coordination and intersentential relationships are excluded.

Canonical switch-reference is superficially similar to other syntactic binding relations, such as those between reflexive pronouns and their antecedents, in its conformity to the Locality, Hierarchical Adjunction, and Functional Conditions. However, it differs from them in that the relation of c-command does not necessarily obtain between the NPs in a switch-reference relation. This is illustrated in (4), where an R-expression like *Joan* in the most deeply embedded NP might be set equal by a SS marker to the NP in the matrix clause; if the two were in a c-command relation this would violate Principle C of the Binding Theory, which states that an R-expression is free in all categories.⁵

In consequence, the referential possibilities allowed for by switch-reference must be accounted for indirectly. To solve this problem Finer follows Aoun (1981, 1985, 1986) in postulating a generalised binding theory which allows the extension of the Binding Principles to A' (nonargument) positions; he also needs to assume transitivity of indexing between Comp and Infl/Agr. (4) is the structure Finer considers most plausible for switch-reference examples; note that it has a subordinate marked clause embedded within a matrix controlling clause. He includes a VP node, but notes that this may not be appropriate for some of the languages in question, although he claims it would not affect his account (see Finer 1985b: 44, n. 10; however on p. 52, n. 16 he seems to acknowledge that it would make a difference).

(4)



On this account, SS and DS are abstract operators which occupy Comp, i.e. they do not have morphological realisation; they are attached to the verb in the same way that elements in Agr are normally assumed to be cliticised to the verb at the level of Phonological Form. SS is an A'-anaphor and DS an A'-pronominal. The reason given for choosing to place SS and DS under Comp, out of several possible analyses, is that as we shall see below switch-reference morphemes often mark additional meaning such as temporal and logical relations between the clauses.

Finer claims that a subordinating morpheme found in Comp forms a discontinuous constituent with Infl/Agr: equivalently, Comp and Infl/Agr are joint head of the S'. The governing category for SS and DS will be the matrix clause; the superordinate S'. This is possible because Finer does not allow S to be a maximal projection. The governing category must contain the element in question, a governor of it, which is the Comp_Infl/Agr of the matrix clause, and a Subject accessible to it, which is the Agr of the matrix clause, on the assumption that Agr may count as a Subject.⁶

Now for the transitivity of indexing relation. Agr (along with Tense) is a realisation of Infl, the inflectional component of the sentence; it is an empty pronominal governing the subject NP and assigning case to it, and, as in most formulations of GB, its presence is dependent upon the presence of Tense. Agreement between subject and verb is handled by a rule which coindexes Agr and the subject NP, this coindexation to be interpreted as constraining the two to be compatible in the relevant features of person, number etc. Since Agr indexes the [NP,S], and since, given the relation between Agr and Comp, these two share indices, then Comp and [NP,S] share indices.

SS is an A'-anaphor which means that it must be bound in its governing category by an item in an A' position. It will be bound by the upper Comp and thus indirectly bound to the upper subject NP indexed *i*. The DS A'-pronominal must be free in this governing category; thus it is explicitly *not* bound to this NP.

There are certain difficulties of a technical nature for this account. If Agr is possible only when Tense is present, and this account of switch-reference relies on transitivity of indexing from Comp to the NP via Agr, then the account will run into difficulties in many switch-reference languages, since switch-reference marking is normally incompatible with tense marking. Problems will also arise in languages where the value of [NP,S] and Agr cannot be identical due to the presence of object agreement marking on the verb as well as subject agreement marking, or due to complicated subject-verb agreement facts, such as occur in Hopi (see Tsujimura 1987: 17). Also, Finer argues that the SR markers are part of Comp, but really there seems to be no good reason for this (see Roberts 1988a: 47, Tsujimura 1987: 14 for some discussion). Finally, it is not clear that the switch-reference morphemes are best analysed as attached to any node in a phrase structure tree; such an analysis is particularly problematic for languages with multiple or discontinuous switch-reference marking, such as Kashaya (Oswalt 1983) and Amele (Roberts 1987); see Tsujimura (1987: 24) for relevant discussion.

However, these are minor problems compared with the fact that many of the assumptions which Finer makes about switch-reference turn out not to be generally true. In this book I argue that although the canonical definition of switch-reference may encourage an account in terms of syntactic binding, in fact this definition crucially misrepresents the phenomena, and switch-reference cannot be handled in this way.

1.2 Violation of categorial iconicity

Because switch-reference has the formal property of being marked on the verb, but the functional property of tracking the reference of NPs in the clause, it is said to involve a violation of the **Principle of Categorial Iconicity**, whereby a distinction is normally marked on the category to which it applies semantically (Haiman 1983, 1985; Haiman & Munro 1983b: ix). The crucial assumption here is that the category to which switch-reference marking applies semantically is that of the pivot NP.

It is this combination of formal and functional characteristics, which for many researchers makes switch-reference 'exotic' (Haiman & Munro 1983b: ix-x; Finer 1985b: 35) or 'weird' (Haiman 1983:105). This is also for many the individuating or defining criterion for switch-reference, which distinguishes it from other formal devices with similar reference tracking functions. On this view, then, there is a natural class of functions concerned with tracking the reference of NPs, and these may be realised formally in a variety of different fashions, depending upon particular synchronic and diachronic characteristics of the language. The implication is that the function performed by a switch-reference system might just as well have been performed by a reference tracking device marked on the NPs themselves, in fact such a situation would be more 'normal'. Even Givón (1983), who does not accept the primacy of structural characteristics in distinguishing switch-reference as a separate and identifiable phenomenon, still maintains the view that functionally, it is not interestingly different from other referential tracking systems. Of course, this view is formally encoded in Finer's grammar of switch-reference, where switch-reference is a binding relation between NPs which just happens to be mediated by other elements of the clause. Finer has to assume that switch-reference information starts off in the ultimately unrealised constituent of Comp, which allows the **syntactic/semantic information** encoded by switch-reference to transitively percolate through onto the subject nominals of the clauses, while the **phonological information** ends up appearing on the verb.

Without denying that the reference tracking function of switch-reference systems is primary, I wish to make two points about these ideas. Rather than seeing switch-reference as a way of ensuring certain indexing relations between NPs, I propose that we see it as giving information about the clause, via giving information about the verb.

First, I will show that the claim that switch-reference violates categorial iconicity and is therefore weird is a fundamentally misguided one.⁷ There are two parts to the argument. First, suppose we accept the premise that switch-reference marking semantically applies to the pivot NPs in the related clauses. There is a well-motivated typological distinction between head-marking and dependent-marking morphology, such that any grammatical relation between a head constituent and one of its dependents may be marked on either head or dependent (Nichols 1986). Some grammatical processes are biased crosslinguistically towards one type of marking, for example the relationship between subordinate and matrix clauses is normally marked on the subordinate clause. But for most processes, which kind of marking occurs depends, crudely, on whether the language has chosen the head-marking or dependent-marking option. Switch-reference languages tend to be head-marking, with complex verb morphology. They also tend to be 'pro-drop' or 'null anaphora' languages, where, due to a rich verbal agreement system, subject NPs and often other NPs are freely omissible (Hale 1983: 7). The fact that referential relations which hold of an argument of the verb are marked on the verb itself seems to be an unsurprising consequence of these typological choices. The second part of the argument challenges the assumption that switch-reference marking is semantically in the domain of the pivot NPs, and claims instead that its semantic domain is that of the clause. Further development of this argument must wait until some of the functional complexity of switch-reference systems has been explored.

The second point I wish to make concerns this functional complexity. In this chapter and the next I will show that, whatever the historical origins of switch-reference systems are, synchronically they often exhibit a functional complexity which is very similar across switch-reference languages, regardless of what area of the world they come from, and which appears to be related to the fact that they are marked on the verb.

In summary, I take the position that the fact that switch-reference marking occurs on the verb, or at least not on the pivot NP, is indeed criterial to distinguishing switch-reference systems from other reference-tracking systems, but that this does not make switch-reference weird: rather, the formal realisation of switch-reference marking is in fact intimately connected with the range of functions which switch-reference systems encode. I shall show that the Functional Condition

defined above is inadequate as a characterisation of the functions of switch-reference, and I shall argue that a more adequate characterisation, if taken seriously, will lead us to revise our ideas about how switch-reference should be accounted for theoretically.⁸

In section 1.3, I give a condensed but relatively comprehensive tour of the formal complexity of switch-reference systems. This section has two aims. One is to bring out the importance of typological characteristics of the language for the shape of the switch-reference system. The other is to show that the formal conditions on canonical switch-reference misrepresent the data in important ways, and that Finer's account is thus inadequate as a comprehensive theory of switch-reference. Exceptions to the Realisation Condition are relatively unimportant and are a function of other typological characteristics of the language. However, the Locality Condition, although correct for many switch-reference languages, is not generally correct, and as is already obvious, the Hierarchical Adjunction Condition has only very limited applicability: thus, switch-reference relations do not seem to be candidates for a syntactic binding account based on configurational notions of binding. Finally, the Subject Condition is also wrong for many languages, in two major respects: non-subject NPs as well as subjects may be pivots in some languages, and in many switch-reference languages, a notion of agentivity is criterial in defining switch-reference pivots.

In section 1.4, I review the functional complexity of switch-reference systems and show that the Functional Condition is too simple. This is important not only in what it tells us about how we should regard switch-reference. It also indicates once again that a binding account is inadequate, and indeed that any theoretical description which fails to take account of non-referential functions of switch-reference systems is descriptively inadequate.

Finally, in section 1.5 I consider two other types of phenomena which have been likened to switch-reference – obviation and logophoricity.

1.3 The formal complexity of switch-reference systems

In this section we shall consider in more detail the four formal conditions on canonical switch-reference listed in 1.1: the Locality Condition, the Dependency Condition, the Realisation Condition and the Subject Condition.

1.3.1 *Dependency relations between marked and controlling clauses*

Even from the little which has been said about switch-reference so far, it is clear that the strict form of the Dependency Condition subscribed to by Finer – the Hierarchical Adjunction Condition – cannot be true. I said in 1.1 that the two canonical types of syntactic relation which occur between marked and controlling clauses are the relation of hierarchical adjunction which holds between a subordinate adverbial clause and its matrix clause, and the dependency relation which holds between clauses in a clause chain. Examples (1) and (2), repeated below, represent the adverbial type and the clause-chaining type respectively. The first type is pervasive in the languages of North America, and the second type is pervasive in the languages of Papua New Guinea, although both types occur in languages from other areas as well (eg. Longacre 1983 discusses a South American clause-chaining language and Nichols 1983: 245 shows that chaining occurs in languages of the Northeast Caucasus).

- (1) a. *nya-isvar-k* *iima-k*
 when-sing-*SS* dance-Tns
 ‘When he_i sang, he_i danced.’
 b. *nya-isvar-m* *iima-k*
 when-sing-*DS* dance-Tns
 ‘When he_i sang, he_j danced.’ (Mojave; Munro 1980c: 145, (4))
- (2) a. *ye nam su-ab* *isomei*
 I tree cut-*SS* I_went_down
 ‘I cut the tree and went down.’
 b. *ye nam su-ine* *isorei*
 I tree cut-*DS* it_went_down
 ‘I cut the tree down.’ (Usan; Haiman & Munro 1983b: xi, (3,4))

Clause-chaining languages tend to be verb final. The relation between clauses in a clause chain is usually assimilated to the relation between overtly coordinated clauses in languages such as English, and sometimes is compared to the relationship between separate sentences in a paragraph. Clause chains may be very long (up to twenty clauses per

chain are noted by Davies 1981 and Roberts 1987, 1988a). The question of whether the relationship should be assimilated to coordination or subordination, or distinguished from either, is discussed in some detail in chapter 5, where I conclude that the dependency of the medial clauses on a final clause for tense and other verbal inflection distinguishes them from coordinated clauses, and propose that they should be seen as fitting somewhere between subordinate and coordinate clauses in the taxonomy (Foley & Van Valin 1984: 242 also discuss this issue and conclude by assimilating clause-chain relations to their category of 'cosubordination', since the clauses are in a dependency relation, but neither is embedded in the other). The following example of a clause-chain construction is from Amele (Roberts 1987: 101).

- (5) Ija Malolo uqa na ka jic ana-g na
 1Sg Malolo 3Sg of_Poss car road mother-3Sg_Poss at
 ono nu sum-ud-i bi-bil-igin
 there for wait-3Sg-Pred Sim-be_Dur-1Sg_DS
 ne-ce-b tobo-co-min belo-w-an.
 come_down-DS-3Sg climb_up-DS-1Sg go-1Du-YestP
 'While I waited for Malolo's car there at the main road, he came
 down, I climbed in, we two went off.' (101, (Text 7); 238, (396);
 297, (583))

Apart from subordinate adverbial clause constructions and clause-chaining constructions, switch-reference systems may relate clauses in a wide range of different construction types. As well as other kinds of subordinate clauses such as relative clauses and complement clauses, switch-reference may mark overtly coordinated or paratactically related clauses. In the literature a distinction is rarely made between coordinate and chaining constructions: for a variety of languages in which switch-reference is marked exclusively in these kinds of constructions see Franklin (1983), Haiman (1983), Longacre (1983) and Lynch (1983), and for some in which it is marked over both coordinate and subordinate clause boundaries see Munro (1983). Clear cases of switch-reference in coordinate constructions which are not clause chains are noted by Gordon (1983: 98) for the American language Maricopa and Austin (1980: 26-7) for Pitjantjatjara and other dialects of the Australian Western Desert language. In the latter, switch-reference is marked